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PATENT  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

SARAH B. NOONBERG and C. ANTHONY HUNT

Serial No.: 08/324,001

Group Art Unit: ~~1804~~

Filing Date: October 13, 1994

Examiner: Unassigned

Title: IN VIVO OLIGONUCLEOTIDE  
GENERATOR, AND METHODS OF  
TESTING THE BINDING  
AFFINITY OF TRIPLEX  
FORMING OLIGONUCLEOTIDES  
DERIVED THEREFROM

1804  
Martirelli, J.

INFORMATION DISCLOSURE

STATEMENT UNDER 37 CFR § 1.97

The Assistant Commissioner  
for Patents  
Washington, D.C. 20231

Dear Sir:

The information listed below, which may be material to  
the examination of the above-identified application, was  
disclosed throughout the application as originally filed.  
The information is listed below in the same general order  
that it first appears in the application. Copies of the  
information and completed PTO-1449 forms are submitted  
herewith. The Examiner is respectfully requested to make  
this information of official record in the application. The  
information includes:

U.S. Patent No. 5,316,930 to Loesch-Fries et al.,  
(05/31/94).

Case et al., "The unusual stability of the IS10 anti-sense RNA is critical for its function and is determined by the structure of its stem-domain" EMBO J. (1989) 8:4297-4305.

Chrissey et al., "Antisense technology: Principles and prospects for therapeutic development" BioPharm (1991) pp. 36-42.

Cooney et al., "Site-specific oligonucleotide binding represses transcription of the human c-myc gene *in vitro*" Science (1988) 241:456-459.

Das et al., "Upstream regulatory elements are necessary and sufficient for transcription of a U6 RNA gene by RNA polymerase III" EMBO J. (1988) 7:503-512.

Durland et al., "Binding of triple helix forming oligonucleotides to sites in gene promoters" Biochem. (1991) 30:9246-9255.

Duval-Valentin et al., "Specific inhibition of transcription by triple helix-forming oligonucleotides" Proc. Natl. Acad. USA (1992) 89:504-508.

Hannon et al., "Multiple *cis*-acting elements are required for RNA polymerase III transcription of the gene encoding H1 RNA, the RNA component of human RNase P" J. Biol. Chem. (1991) 266:22796-22799.

Hélène, "The anti-gene strategy: control of gene expression by triplex-forming-oligonucleotides" Anti-Cancer Drug Design (1991) 6:569-584.

Izant, "Chimeric antisense RNAs" Gene Regulation: Biology of Antisense RNA and DNA (1992) Erickson, R.P. et al., eds., Raven Press, New York, pp. 183-195.

Jennings et al., "Inhibition of SV40 replicon function by engineered antisense RNA transcribed by RNA polymerase III" EMBO J. (1987) 6:3043-3047.

Junker et al., "Reduction in replication of the human immunodeficiency virus type 1 in human cell lines by polymerase III-driven transcription of chimeric tRNA-antisense RNA genes" Antisense Res. & Develop. (1994) 4:165-172.

Kunkel et al., "U6 small nuclear RNA is transcribed by RNA polymerase III" Proc. Natl. Acad. USA (1986) 83:8575-8579.

Kunkel et al., "Transcription of a human U6 small nuclear RNA gene *in vivo* withstands deletion of intragenic sequences but not of an upstream TATATA box" Nucleic Acids Res. (1989) 17:7371-7379.

Marshallsay et al., "Characterization of the U3 and U6 snRNA genes from wheat: U3snRNA genes in monocot plants are transcribed by RNA polymerase III" Plant Mol. Biol. (1992) 19:973-983.

Moffat , "Making sense of antisense" Science (1991) 253:510-511.

Murphy et al., "The *in vitro* transcription of the 7SK RNA gene by RNA polymerase III is dependent only on the presence of an upstream promoter" Cell (1987) 51:81-87.

Noonberg et al., "Detection of triplex-forming RNA oligonucleotides by triplex blotting" BioTechniques (1994) 16:1070-1072.

Noonberg et al., "In vivo generation of highly abundant sequence-specific oligonucleotides for antisense and triplex gene regulation" Nucleic Acids Res. (1994) 22:2830-2836.

Sullenger et al., "Expression of chimeric tRNA-driven antisense transcripts renders NIH 3T3 cells highly resistant to Moloney murine leukemia virus replication" Mol. & Cell. Biol. (1990) 10:6512-6523.

Terns et al., "Multiple cis-acting signals for export of pre-U1 snRNA from the nucleus" Genes & Development (1993) 7:1898-1908.

Williard et al., "Paradoxical production of target protein using antisense RNA expression vectors" Gene (1994) 149:21-24.

Willis, "RNA polymerase III. Genes, factors and transcriptional specificity" Eur. J. Biochem. (1993) 212:1-11.

Yuan et al., "5' flanking sequences of human MRP/7-2 RNA gene are required and sufficient for the transcription by RNA polymerase III" Biochim. Biophys. Acta (1991) 1089:33-39.

The references above are summarized throughout the application as originally filed. The summaries contain what the undersigned believes to be the salient aspects of the cited references. They are not intended to be a comprehensive statement of the relevance of the references to the subject invention.

Three of the articles listed above, namely Junker et al., Jennings et al., and Sullenger et al., were also cited in an International (PCT) Search Report dated February 3, 1995, directed to the related PCT Application No. PCT/US94/11616. A copy of the Search Report, including an indication of the purported relevance of these documents, is enclosed for the Examiner's convenience.

This Information Disclosure Statement is submitted before receipt of the first Office Action on the Merits. Therefore, the applicants believe that no fee is due. However, the Commissioner is hereby authorized to charge any fees which may be required by this paper to Deposit Account Number 03-1952.

Applicants would appreciate the Examiner's initialling and returning the Form PTO-1449, indicating that the references have indeed been considered and made of record herein.

PATENT  
USSN 08/324,001  
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This Information Disclosure Statement under 37 CFR § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

Respectfully submitted,

By Gladys H. Monroy  
Gladys H. Monroy  
Registration No. 32,430

Date: May 15, 1995

MORRISON & FOERSTER  
755 Page Mill Road  
Palo Alto, CA 94304-1018  
(415) 813-5600  
Fax: (415) 494-0792